

Gateway

Volume 5
Number 10

February 3, 1989



The ARRL Packet-Radio Newsletter

TNC 1 UPGRADE AVAILABLE REAL SOON NOW

An upgrade kit for the TAPR TNC 1 is in the works according to a story in the February issue of *Packet Status Register*. The upgrade consists of a 4.5- X 5.5-inch "enhanced" TNC 2 board that is added to a TNC 1 chassis and results in a TNC that has the capabilities of the TNC 1 and the TNC 2. The upgrade will also work with the early TAPR beta TNCs and with TNC 1 clones like the Heath HD-4040.

According to the story written by Lyle Johnson, WA7GXD, from the perspective of the TNC 2, the upgraded TNC 1 provides all of the TNC 2 features plus the following new ones:

1. Software selectable serial port (ABAUD) and radio port (HBAUD) speeds
2. Two sets of default parameters in battery-backed RAM (optional)
3. Two sets of EPROM-based software (optional)
4. Complete TNC 2 firmware capability (NET/ROM, for example). This also ensures availability of firmware for the upcoming AX.25 Version 2.1, etc.
5. Two modem disconnect headers (one for the TNC 1, another for the TNC 2)
6. Front panel reset switch
7. A TNC 1

The kit is scheduled to be available from TAPR in late February. Kit pricing will also be available then.

JAPANESE DEVELOP 9600 BIT/S MODEM

Packet Radio User's Group (PRUG) in Tokyo, Japan, has developed a high-speed modem for the TNC 2 and its clones. It is based on the CCITT V.29 (9600 bit/s) protocol and uses a Rockwell module (R96MD).

No modification of your radio equipment is necessary; just connect the modem to the audio input and output connectors of your radio. Some stations around Tokyo are using this modem with KA9Q's TCP/IP software on 430-MHz FM and some are planning to use it on HF SSB.

from Yutaka Sakurai, JF1LZQ
via CompuServe's HamNet

DSP HARDWARE UPDATE

The TAPR/AMSAT DSP 1 (digital signal processing) hardware is moving right along, behind schedule as predicted.

The DSP320 processor board has been check-plotted several times and the artwork turned over to a printed circuit prototype house for initial production of the alpha boards. The rear panel I/O board has also been check-plotted and released to alpha production. These two boards are four-layer boards and the are most complex attempted yet by TAPR. Chuck Green, NØADI, gets the credit for these layouts.

The double-sided power supply board (done by NØADI and Lyle Johnson, WA7GXD) is also in alpha production. At this writing, the DSP loader board, being designed and laid out by WA7GXD, is in the final design stages. It should be at the printed circuit prototype house for prototype fabrication by late January.

by Lyle Johnson, WA7GXD,
from *Packet Status Register*

XEROX PBBS VERSION 12.5 AVAILABLE

Version 12.5 of the Xerox PBBS software is now ready for release. The package includes the following new features:

1. Swapping @ fields
2. Comment lines may now be placed in the forwarding file
3. Remote SYSOP gateway to other nodes when in the LAN configuration
4. Automatic deletion of P\$, B\$ and BN types after specified number of days
5. Hold list added for your favorite turkeys
6. SYSOP password function may be optionally turned off
7. Automatic generation of BIDs based on an "approved" list

8. Rejection of unwanted bulletins based on any of the following criteria:

- a. connected station call sign plus @-field
- b. BID (wildcards allowed)
- c. @-field only

Additionally, the autoboot code has been made compatible with the 820-II or 16/8 bootstrap ROMs. Note that installing these chips will downgrade the monitor to an 820-I including the loss of the terminal modes and double density.

If you would like a copy, send two 8-inch single-sided disks and a self-addressed mailer with sufficient return postage to:

John Bennett
5805 Whitethorne Drive
Evansville, IN 47710

As before, mailers with insufficient postage will not be returned.

John still blasts EPROMs for autoboot. The same conditions apply as for the disks above, however, rather than disks, two 2716 EPROMs are required.

from John Bennett, N4XI @ N4XI

L.A. LAN PLAN

For those that do not keep pace with the PBBS development architecture in the Los Angeles area, the "assumed" LANs are considered to be:

K6IYK: central and northern California links, Arizona distribution, north Los Angeles, San Fernando Valley and Santa Barbara area PBBSs.

AJ6F: Los Angeles basin, Orange County PBBSs with 30-meter service to other regions and 10-meter service within the LAN.

N6CQW: San Diego PBBSs, Arizona distribution and 40-meter service within the LAN.

KD6SQ: IEBBS member PBBSs distribution, 40-meter service and 20-meter service within the LAN.

The current plan is to tie these LANs via a 1240-MHz full-duplex repeater on Santiago Peak at 4800 baud. This will free up 223.42 MHz as a primary user frequency. The money spent here by Riverside County RACES will assist all Southern California users.

The 6-meter backbone will be installed at Elsinore Peak. This 51.12-MHz "node" should bring other systems and outside areas into the Southern California network.

by Mike Burton, N6KZB
via I-Frame

NOVICE NOTCH: MASSACHUSETTS

Medford, Massachusetts, now has a full time PBBS and gateway operating on 223.580 MHz. It is WB1GWS-4 and its gateway is linked to 145.070 MHz.

from Myrton Smith, WB1GWS @ WB1GWS

(Gateway would like to continue publicizing Novice packet-radio activity, so if you know of any, please let me know, too. - WAILOU)

CLUB CLIPPINGS

NEW YORK: LIDS IT IS

Recently, the Packeteers of Long Island (POLI) voted to change their name to the Long Island Digital Society (LIDS). According to LIDS president Alex Mendelsohn, AI2Q, the name was changed to reflect the widening scope of the organization. LIDS meets on the third Thursday of each month. For more information, contact LIDS secretary, Joe Schwartz, N2FRD, at 17 Glade Ln, Levittown, NY 11756.

from Joe Schwartz, N2FRD

ENGLAND: TO THE MAX

The Midlands AX.25 Packet Radio Users Group (Maxpak) of England meets on the first Monday of the month at the Swan Hotel, Bridgenorth Rd, Compton, Wolverhampton. Besides having a very active organization, Maxpak publishes a professional-quality magazine quarterly called *Digicom* which is devoted entirely to amateur packet radio. For more information concerning Maxpak, contact David Bentley, G4RVK, at 10 Churnet Grove, Perton, Wolverhampton.

STRAY BITS

At its annual meeting in Hartford on January 20 and 21, the ARRL Board of Directors selected October 7, 1989, as the date for the Eighth ARRL Amateur Radio Computer Networking Conference, which will be held in Colorado Springs, Colorado.

Tucson Amateur Packet Radio Corp (TAPR) has a new mailing address, as follows: TAPR, PO Box 12925, Tucson, AZ 85732. TAPR's telephone number is unchanged (602-323-1710).

WØRLI PBBS software Version 9.05 is now available from the usual sources (see *Gateway*, Volume 5, Number 7).

Digipeater WA7HXO-1 was moved from 6500-foot Low Potosi Mountain to 8600-foot High Potosi, 35 miles southwest of Las Vegas to provide Vegas with a digipeater that can be used for local communications on 145.05 MHz and as an alternative path to the Los Angeles area. Also, PBBSs KEØKKX-1 and KEØKKX-2 were placed on the air on 145.01 and 145.05 MHz respectively and are part of WESTNET.

SUDAN NEEDS HF PACKET-RADIO HELP

The Volunteers In Technical Assistance (VITA) has received information from a UN agency in the Sudan seeking two people to spend three to four weeks there setting up HF packet-radio stations in various locations around the country. Radios, TNCs and computers have already been acquired. More detailed specifications are coming.

The assignment would begin at end of February. Anybody interested should send or FAX a cover letter and resume to Gary Garriott at VITA (1815 N Lynn St, Arlington, VA 22209, telephone 703-276-1800, FAX 703-243-1865). Preference will be given to people who have HF packet-radio experience, can do this for expenses only (or low fee) and have previously lived and or traveled in developing countries.

SOVIET HAM SEEKS ASSISTANCE

Igor Davydov, UA9BZ, wishes to get in touch with anyone who would be interested in providing Igor with parts to build an AX.25 TNC in exchange for Russian musical records, Russian stamps, GaAsFETs, and/or Schottky diodes (up to 12 GHz). UA9BZ's address is PO Box 41, Chelyabinsk, 454899, USSR.

PACKET-RADIO VOLUNTEER SPEAKERS SOUGHT FOR DAYTON

Bob Neben, K9BL, Packet Forum Moderator for the 1989 Dayton Hamvention is looking for volunteer speakers for the April 28 forum. Bob is looking for "the guru, the world authority on that particular subject." Bob prefers "the touchy/feely approach, the people that bring the hardware, circuit boards to pass around, the mock-ups, computers, videotapes, etc. Just being a talking head without visual aids tends to put people to sleep." The person also needs to be a good speaker. Bob also wants to avoid commercial speakers since he believes their talks will be more marketing than technical and he wants to avoid conflict for conflict's sake ("my protocol's better than yours!"). Volunteers are asked to contact Bob via CompuServe's HamNet or EasyPlex.

from CompuServe's HamNet

ROSE SWITCH ADDRESSING EXPLAINED

In response to several questions about ROSE X.25 Switch addressing, here is the format for the Network Address or Network Service Access Point ID (NSAP-ID) for OSI protocol-based Amateur Radio systems. Format: 470011 + 1 length octet + DNIC + National Number + Amateur Call Sign + Other. For example, the address for N2DSY in New Jersey is 470011 0A 3100 201387 4E32445359 2D30, where 47 is the Authority and Format ID (AFI) and 0011 is International Code Designator (ISO 6523 ICD) for Amateur Radio OSI.

The length has a range of 0-F and is in the low nibble. The high nibble is 0. The length is the number of nibbles used by the DNIC and National Number. The DNIC is the CCITT X.121 Data Country Code with a 0 appended to it. The National Number varies, but it is based on either the telephone or packet-radio

network numbering plan used in the country. In North America, we use the area code and exchange or the area code with a 0 added to pad the field. This pad is not counted in the length (above). The amateur call sign is encoded in ASCII, one character per octet. The Other field is used for self-assigned designators such as SSIDs. It always starts with a "-" (2EH). These are the fields as they are used in the ROSE X.25 Switch.

from Gordon Beattie, N2DSY
via CompuServe's HamNet

OPINION: REDUCING MESSAGE LENGTHS

I believe that we are all getting carried away by the power of the home computers that we are using. The capability now exists to generate great quantities of information with just a push of the button. In my opinion, the most superfluous, useless junk that we carry around on all our messages and bulletins is all that header stuff. What is happening is that, typically, the headers take up 25 to 50 percent of the message/bulletin file size. The transmission of this extra material just adds more QRM to already busy circuits, especially the HF ones. Since I am running the long-haul HF gateway link with N4QQ-1 and I know it is imperative to reduce message overhead. I have been as much to blame as anyone else, but take a look at my header line beginning with this message (Path: W1AW!W2JUP!N2MH!N1DL!WA5QZI!W3IW!N4QQ!N4QQ!4X1RU) and ask yourselves if this isn't sufficient? If there are any other suggestions concerning the reduction of header size, I would like to hear about them.

Here are other suggestions for conserving message length:

Do not indent the complete text. If you must indent for purposes of clarity, think about all those extra spaces flying through the airwaves that add nothing to the information you want to pass, but just expand the message size.

Do not use hyphens (----) to underline or use asterisks (***) as horizontal text separators. Several blank lines will have the same effect with a lot less overhead.

de Jim Zur, 4X1RU @ 4X1RU

FOR THE RECORD...

The story titled "NET/ROM Aids Available" in *Gateway*, Volume 5, Number 7, contained an error with regards to NSDUB's address. The correct address is Doug Everitt, NSDUB, PO Box 76451, Oklahoma City, OK 73147.

GATEWAY CONTRIBUTIONS

Submissions for publication in *Gateway* are welcome. You may submit material via the US mail to:

Gateway
Stan Horzepa, WA1LOU
75 Kreger Drive
Wolcott, CT 06716-2702

or electronically, via CompuServe to user ID 70645,247. Via telephone, your editor can be reached on evenings and weekends at 203-879-1348 and he can switch a modem on line to receive text at 300, 1200 or 2400 bit/s.

The deadline for each issue of *Gateway* is the Saturday preceding the issue date (which is typically a Friday).

REPRODUCTION OF GATEWAY MATERIAL

Material may be excerpted from *Gateway* without prior permission, provided that the original contributor is credited and *Gateway* is identified as the source.

Gateway: The ARRL
Packet Radio Newsletter
American Radio Relay League
225 Main Street
Newington, CT 06111

Gateway: The ARRL Packet Radio Newsletter is published by the:

American Radio Relay League
225 Main Street
Newington, CT 06111

Stan Horzepa, WA1LOU
Editor

Larry E. Price, W4RA
President

David Sumner, K1ZZ
Executive Vice President

Subscriptions are available to ARRL members and nonmembers, at the following rates:

For 25 issues of *Gateway*:

In the US

ARRL Member \$6.00
Nonmember \$9.00

In the US, Canada and Mexico by First Class mail

ARRL Member \$11.00
Nonmember \$14.00

Elsewhere by Airmail

ARRL Member \$14.00
Nonmember \$17.00

Prices are subject to change without notice. Remittance must be in US funds, and checks must be drawn on a bank in the US.

Nonprofit Organization
U.S. POSTAGE
PAID
Hartford, CT
PERMIT NO. 2929

7045336 ABGNJ P 24
STEVEN K STROCH
14919 NE 163RD ST
ACQUINVILLE WA 98072-8957